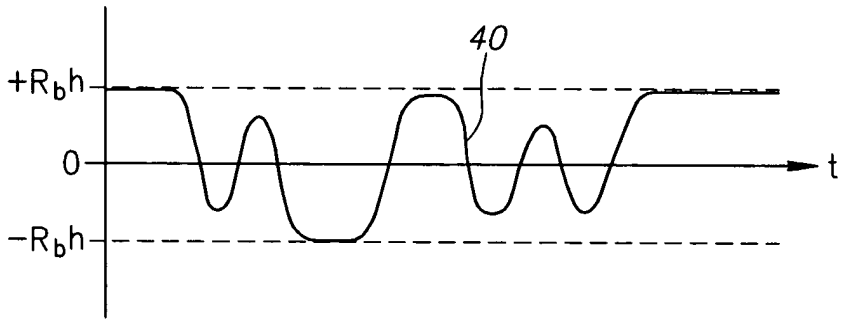

FIG.1A

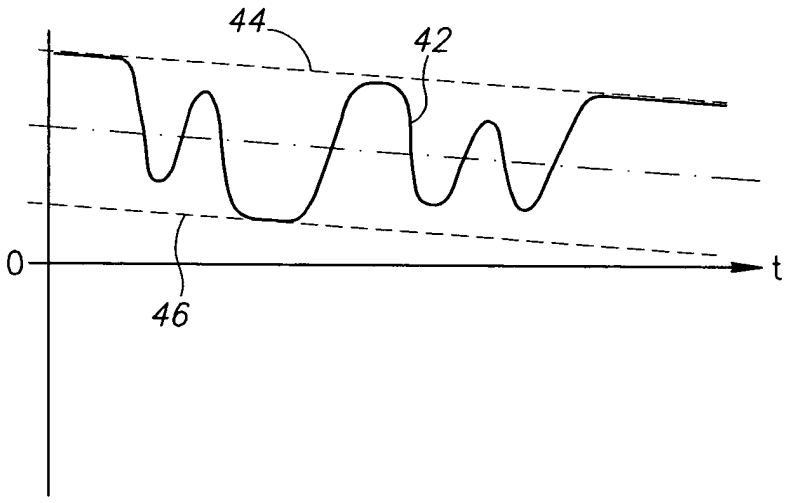

FIG.1B

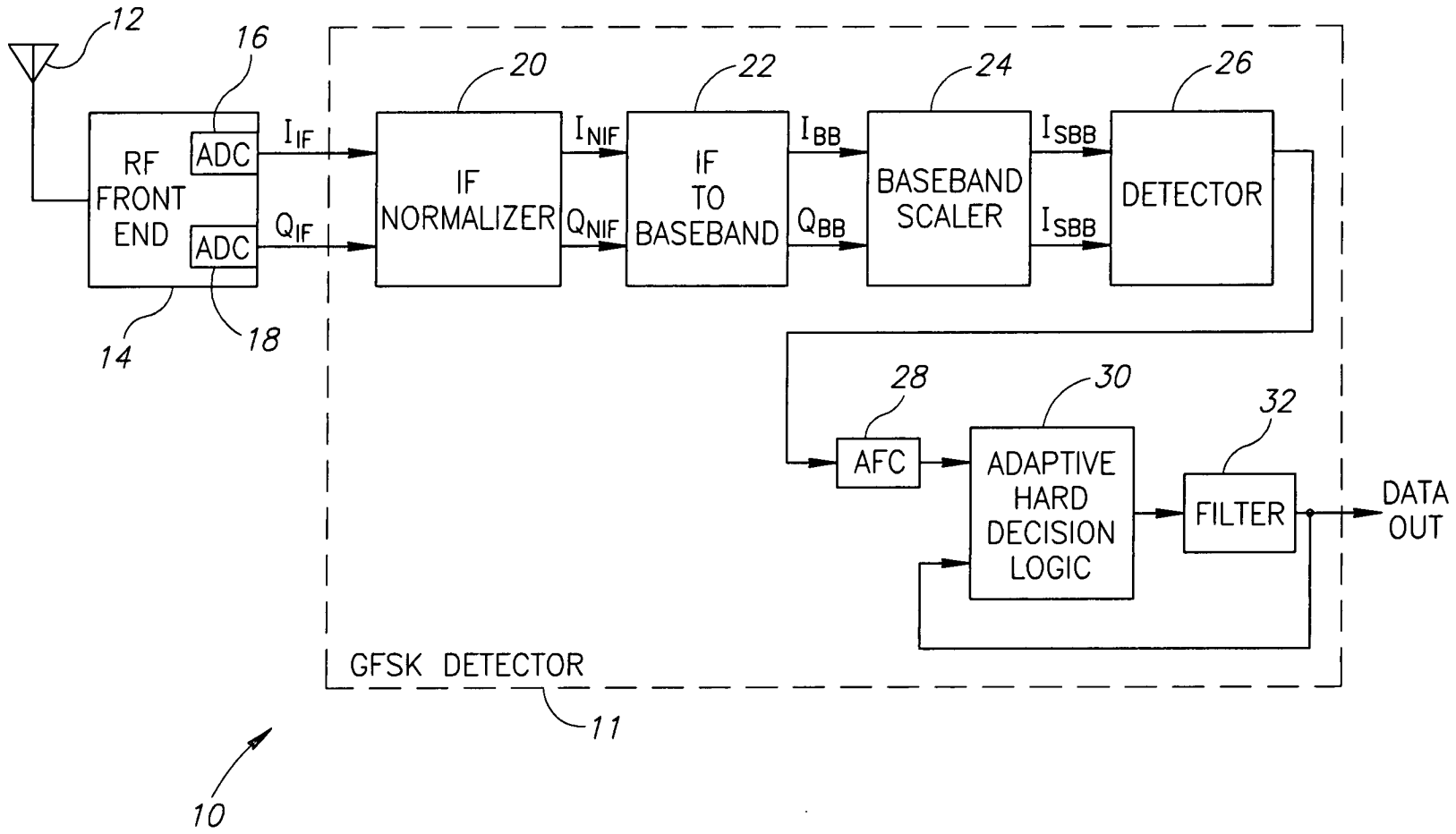
12
16
20
22
24
26
RF
FRONT
END
ADC
ADC
I_{IF}
Q_{IF}
IF
NORMALIZER
I_{NIF}
Q_{NIF}
IF
TO
BASEBAND
I_{BB}
Q_{BB}
BASEBAND
SCALER
I_{SBB}
I_{SBB}
DETECTOR
14
18
28
30
32
AFC
ADAPTIVE
HARD
DECISION
LOGIC
FILTER
DATA
OUT
GFSK DETECTOR
11
10

FIG.2

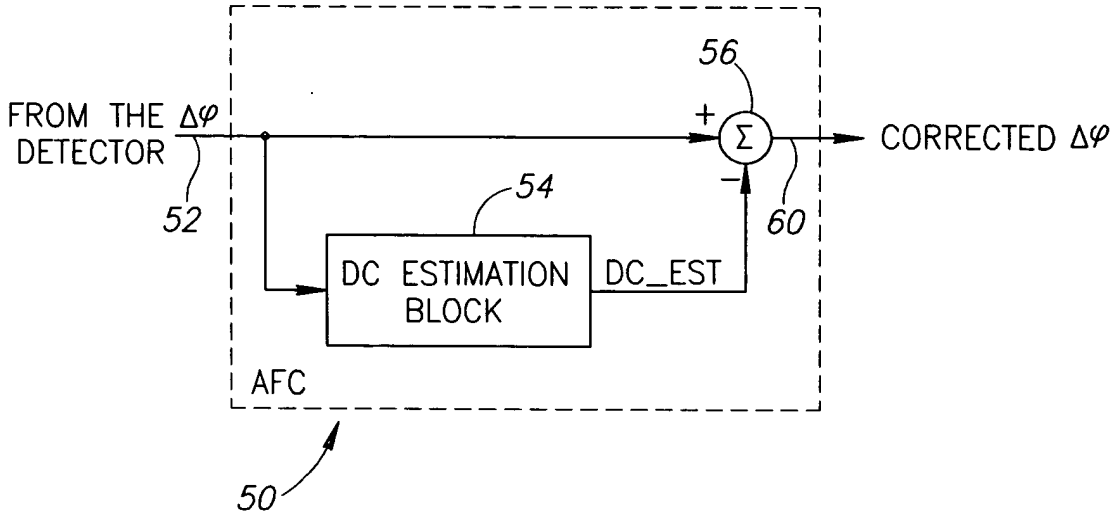
FROM THE Δφ
DETECTOR
52
56
+
Σ
−
CORRECTED Δφ
60
54
DC ESTIMATION
BLOCK
DC_EST
AFC
50

FIG.3

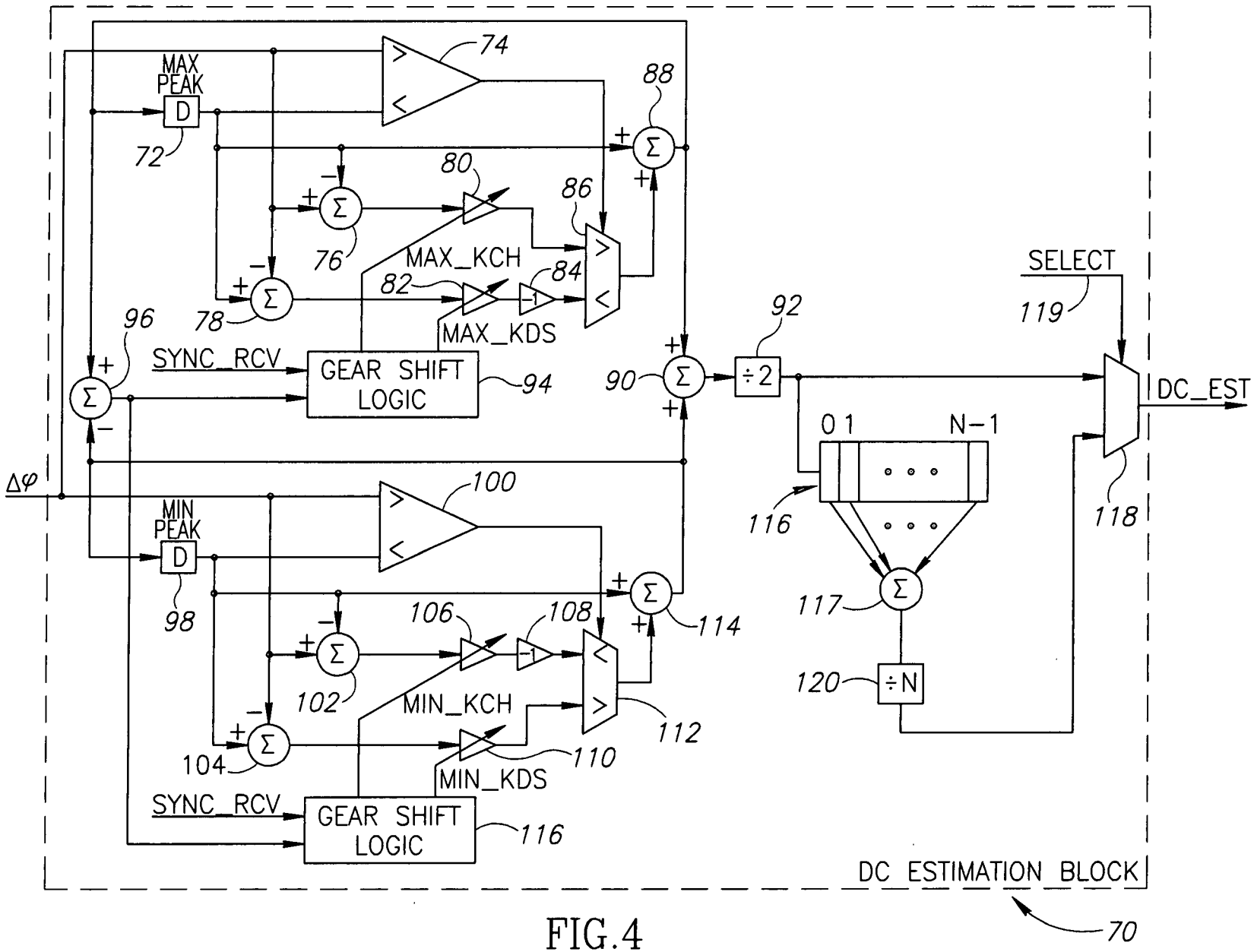
MAX PEAK
D
72
74
88
80
86
76
MAX_KCH
82
84
78
96
MAX_KDS
SYNC_RCV
GEAR SHIFT LOGIC
94
90
92
÷2
SELECT
119
DC_EST
0 1
N−1
116
118
117
120
÷N
Δφ
MIN PEAK
D
98
100
106
108
114
102
MIN_KCH
112
104
110
MIN_KDS
SYNC_RCV
GEAR SHIFT LOGIC
116
DC ESTIMATION BLOCK
70

FIG.4

LISTING 1

```
IF AFTER_SYNC
    MAX_KCH = 2^-7;
    MAX_KDS = 2^-8;
    MIN_KCH = 2^-7;
    MIN_KDS = 2^-8;

ELSE
    MAX_KCH = 2^-2;
    MAX_KDS = 2^-8;
    MIN_KCH = 2^-2;
    MIN_KDS = 2^-8;

END
IF (MAX_PEAK(K)-MIN_PEAK(K)) >350
    MAX_KDS = 2^-2;
    MIN_KDS = 2^-2;


ELSEIF (MAX_PEAK(K)-MIN_PEAK(K)) <100
    MAX_KCH = 2^-1;
    MIN_KCH = 2^-1;
```

FIG.5

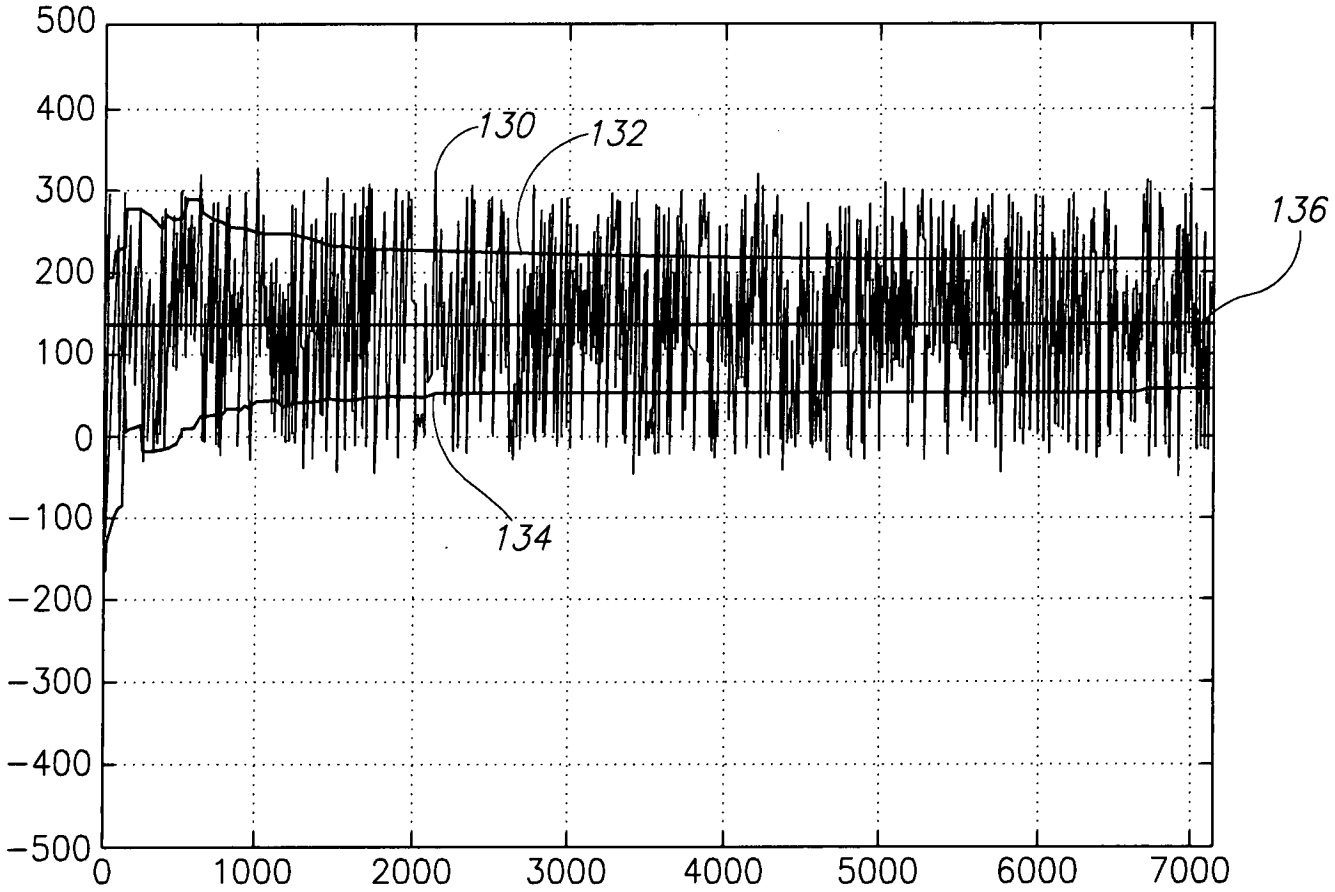
500
400
300
200
100
0
−100
−200
−300
−400
−500
0
1000
2000
3000
4000
5000
6000
7000
130
132
134
136

FIG.6

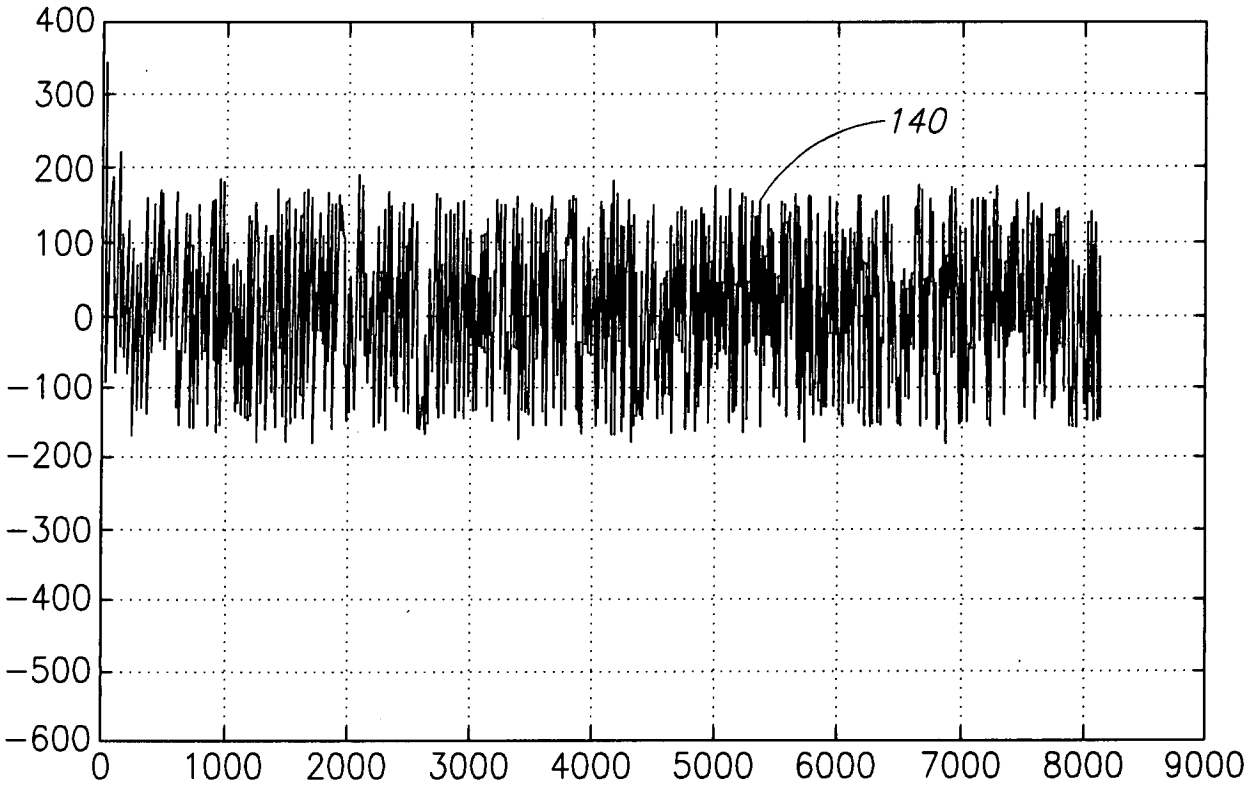
400
300
200
100
0
−100
−200
−300
−400
−500
−600
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
140

FIG.7